

Patent Claims

Base Plate for at Least One Carbon Brush

1. Base plate (10) for at least one carbon brush (22) comprised of a carbon brush guide (28) that extends outward from the base plate, a spring element (46) via which the carbon brush can be deflected in the direction of a commutator or slip ring, and a retaining element (26) that is used to retract the carbon brush against the force exerted by the spring element, characterized in that the retaining element (26) is positioned in the base plate (10) such that it can be shifted, and such that when the carbon brush (22) is retracted, the retaining element becomes engaged within a recess (44) in the carbon brush.
2. Base plate in accordance with Claim 1, characterized in that the base plate (10) can be covered with an element such as a casing (18, 80), which, when the base plate is covered, causes the retaining element (26) to become disengaged from the carbon brush (22).

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3. Base plate in accordance with Claim 1, **characterized in that** the retaining element (26) is positioned such that it can shift within a guide (34) in the base plate (10), that runs perpendicular or essentially perpendicular to the lengthwise axis of the carbon brush (22), and in that the retaining element is supported via a spring element (48) against the base plate (10).
4. Base plate in accordance with Claim 3, **characterized in that** the spring element (48) exerts force against the retaining element (26) in the direction of the carbon brush (22).
5. Base plate in accordance with Claim 1, **characterized in that** the retaining element (26) is equipped with a pin or cylindrical extension (42) on its side that faces the carbon brush, which, when the carbon brush (22) is retracted, becomes engaged in a recess in the carbon brush, in the manner of a pocket hole (44).
6. Base plate in accordance with Claim 5, **characterized in that** when the pin (42) of the retaining element (26) is engaged in the recess (44) in the carbon brush (22) as a result of the adjustment force created by the spring element (46) against the carbon brush, the pin becomes wedged in the recess.
7. Base plate in accordance with Claim 6, **characterized in that** the retaining element (26) is comprised of a first, outer section (40) that runs along the side wall (16) that extends outward from the base (12) of the base plate (10) and runs around its circumference, with this first section being preferably rectangular in its cross-section; this first section crosses over into a center section (36) that runs perpendicular to the first, from which the extension (42) extends, and from which, on its opposite side, a second section (46) extends, which fits into the guide (34) which extends outward from the base (12).
8. Base plate in accordance with Claim 7, **characterized in that** the guide (34) is formed by two parallel, wall-like partitions (30, 32).

9. Base plate in accordance with Claim 8, **characterized in that** the outer surfaces of the retaining element (26) are equipped with depressions, such as grooves (98), running lengthwise along its surface, into which protrusions (99), like ridges, that protrude from the partition walls (30, 32) become engaged.

10. Base plate in accordance with Claim 7, **characterized in that** the spring element is positioned within the guide and is preferably supported against the base (12).

11. Base plate for at least one carbon brush having a carbon brush guide that extends outward from the base plate, **characterized in that** the carbon brush guide (28) is comprised of a U-shaped metal element (54) comprised of bent sections (56, 58) that are connected to the base and either run parallel to the base (12) of the base plate, or run parallel to a partition (14) that runs parallel to the base.

12. Base plate in accordance with Claim 7, **characterized in that** the ends (68, 70) of the bent sections (56, 58) extend through the partition (14) or the base (12).

13. Base plate in accordance with Claim 11, **characterized in that** the carbon brush guide (28), in order to form a U-shape, is comprised of first sections that extend along two opposite side walls (60, 62) and along the top wall (66) of the carbon brush (22), and of second sections (68, 70) that extend outward from the side legs (56, 58) of the first sections.

14. Base plate in accordance with Claim 13, **characterized in that** the second sections (68, 70) extend at least partly parallel to the base (12) or the partitions (14) of the base plate (10).

15. Base plate in accordance with Claim 13, **characterized in that** the second section (68, 70) is comprised of an inner section that extends along the base (12) or the partition (14), and an outer section (76) that extends through the first.

16. Base plate in accordance with Claim 11, **characterized in that** a plate-like metal element (74) extends between the carbon brush (22) and the base (12) or the partition (14), such that the carbon brush can slide along this element, and wherein this element is connected to the U-shaped metal element (54) and/or is penetrated by its outer sections (76).

17. Base plate in accordance with Claim 16, **characterized in that** the outer sections of the side legs (56, 58) of the U-shaped metal element (54) are fastened to the surface (78) of the base or the partition (14) that faces away from the carbon brush, for example, by being bent backward or at a right angle.

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Summary

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The invention relates to a base plate (10) for at least one carbon brush (22), comprised of a carbon brush guide that extends outward from the base plate, a spring element (46), via which the carbon brush can be forced in the direction of a commutator or slip ring, and a retaining element (26) that is designed to hold the carbon brush back against the force generated by the spring. In order to be able to hold a carbon brush in a retracted position during its assembly, using a simple construction, without interfering with the assembly, it is proposed that the retaining element (26) be positioned in the base plate (10) such that it can be shifted, and that, when the carbon brush (22) is in a retracted position, the retaining element becomes engaged in a recess (44) in the carbon brush.